Worldwide Information Services Market

Customer and Market Trends, 1990-1995

for IBM Corporation
Armonk, NY

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WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Table of Contents

Customer Trends

Overview
Driving Forces
Information Systems Technology
Information Services Market Modes and Submodes
Conclusions

Information Services Market Modes and Submodes

Worldwide
United States
Western Europe
Japan
Other

Information Services Vendor Profiles

Andersen Consulting
Automatic Data Processing
CAP Gemini Sogeti
Computer Sciences Corporation
CSK Corporation
Digital Equipment Corporation
Electronic Data Systems
Finsiel
Logica
Reuters
SD-Scicon

Appendixes

INPUT to IBM Modes and Submode Classification
INPUT to IBM Industry Sector Classification

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Information Services Market
Customer Trends
1990-1995

This briefing provides a synopsis of the fundamental customer (user) and market trends driving the information services industry. It draws on INPUT's research into each of the primary delivery modes of the industry as defined by IBM and INPUT, and on the user and vendor research performed by INPUT in the United states, Europe and the rest of the world.

The data presented in this briefing is based on the Worldwide Information Services Industry Mode and Submode tables provided as part of this project.

Overview

Near the end of the 1980s the information services industry began a significant evolutionary step. First identified by the upsurge in commercial systems integration and followed by major information systems outsourcing decisions by well respected *Fortune* 500 corporations, the shape of the information systems playing field began significant change.

- Exhibit 1 provides a historical perspective on outsourcing. It has always been a part of the information systems process in the markets studied by INPUT. What has changed over time is the breadth of the outsourcing decision. These changes reflect:

  - The complexity of the information systems process
  - The maturity of the information services industry
  - The characteristics of business in general in the 1990s—concentration on the essentials
  - The beginning of a shift in the role of information systems—from provider to consultant

Exhibit 1

Evolution of Outsourcing

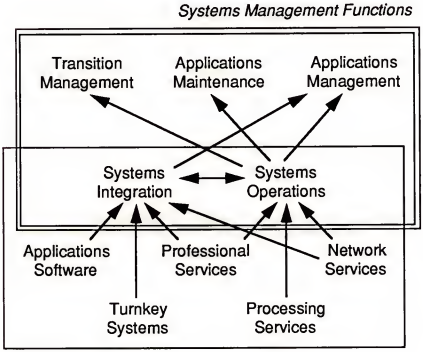
Type of Product or Service	1960s	1970s	1980s	1990s
Applications Software	Applications Packages		Turnkey Systems	Applications Management
Professional Services	Consulting Contract Prog.		Applications Development	Systems Integration
Processing Services	Specific Proc. Serv.		Facilities Management	Systems Operations

- Exhibit 2 projects the outsourcing evolution forward into the 1990s, defining new opportunities and services that will be offered by information services vendors and bought by general management as well as information systems management. They all include the following characteristics:

  - Management responsibility by the vendor
  - Partnership, as well as objective-based, vendor/buyer relationships
  - Multi-year, multi-function, multi-risk relationships
  - Sharing of the ups and downs

Exhibit 2

Outsourcing
Developing Market Opportunities



- Exhibit 3 classifies the vendor/user relationships that will develop under this market evolution.

  - Partnership relationships—characterized by a management orientation, with broad scope, open-ended timing and a flexible contractual agreement
  - Objective-based relationships—characterized by a project orientation, with well defined scope, specific timing and a fairly specific contractual agreement

Exhibit 3

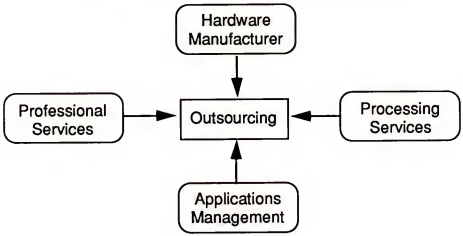
Outsourcing Relationship Classification

Relationship Type	Outsourcing Category	Relationship Characteristics
Partnership-Based	Applications Management Systems Operations	Management-oriented Broad scope Open-ended timing Broad expertise Personnel transfer Flexible agreement Service levels
Objective-Based	Transition Management Applications Maintenance Systems Integration	Project-oriented Specific scope Specific timing Specific expertise Focused agreement Target dates

- Exhibit 4 provides one further insight into the information services market evolution of the early 1990s. It is proving to be a market driven by the larger vendors, each of which brings a distinct heritage or historical orientation to the services it offers.
  - The hardware vendor (e.g., IBM or Digital) moves forward from the orientation of its installed base
  - The professional services vendor (e.g., Andersen Consulting) must add management and risk on two levels—systems integration and systems operations
  - The processing services vendor (e.g., Litton Computer Services) must add applications support or form alliances with professional services firms
  - The applications management vendor (e.g., Systematics) typifies a strategy that will become common as the 1990s evolve

Exhibit 4

Vendor Orientation to Outsourcing



Much of the evolution in the early part of the 1990s will be vendor driven, versus user driven. There are still relatively few corporations that do as General Motors did when it bought EDS in order to outsource information systems, or as Kodak did in its series of decisions. Progress in this area over the next few years will be driven by:

- Examples of success of the new types of services
- The assumption of greater risk by vendors
- Decisions by general versus information systems management

Driving Forces

Against this backdrop of fundamental market and relationship change, the following primary forces are driving the information services market in the early part of the 1990s, as shown in Exhibit 5.

- Impact of the economic slowdown
- Shifting control of information systems expenditure decisions
- Outsourcing of portions of the systems management process
- Systems complexity
- New technologies
  - Networking
  - Downsizing
  - Imaging

Exhibit 5

Information Services Industry Driving Forces, 1990-1995

- Impact of the economic slowdown
- Shifting control of information systems expenditure decisions
- Outsourcing of portions of the systems management process
- Systems complexity
- New technologies
  - Networking
  - Downsizing
  - Imaging

The economic slowdown of 1990 and 1991 (in the U.S. and Europe) will result in a slower overall growth rate for the next five-year period. Some market sectors will drop below a 10% CAGR for the first time, and in general the information services market will see slower and more selective growth.

- As shown in Exhibit 6, the information services market—as defined for this project—was $222 billion in 1990 and will grow to $448 billion by 1995. Certainly the market has reached some level of maturity and given its size, slower growth is reasonable.

- A period of economic slowdown or recession, no matter how short, slows down the decision processes of larger organizations. It is causing a delay in many major information systems decisions.

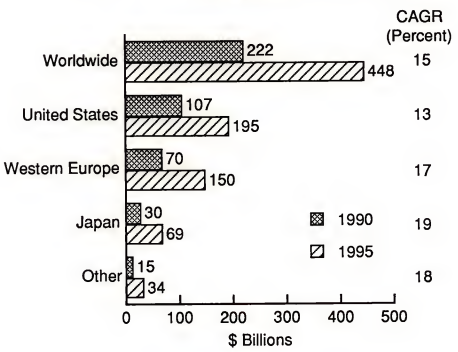
- In the one of the largest U.S. sectors, the federal government, a serious near-term slowdown is apparent.

- The recession in the U.K. and parts of Europe is more severe than in the U.S. and may have a longer dampening effect. In general, however the European market remains stronger than that of the U.S.

Throughout the 1980s business managers at all levels became more involved in the information systems process of their organizations—first as users of fourth-generation languages, then personal computers and finally LANs, relational data bases and more. At the same time, information systems became essential in tying the organization together. A direct result, which will have significant impact in the early 1990s, is that general management is now deeply involved in major information systems decisions. General management often totally controls the budget decision.

Exhibit 6

Worldwide Information Services Market*
1990-1995



* No hardware included
Rounded to nearest $ billion and full percentage

- For the user organization this means that the information systems executive is more on the defensive and is drawn into the operation more fully, and the decision criteria are changed.

- For the information services vendor this means there are often two buyers to be sold that have different priorities and needs. The selling process may be harder and is certainly more complex in many instances.

The end of the 1980s saw the beginning of a new major shift in the information services market—the movement to outsourcing. Certainly information services and products have been outsourced since the beginning, but something was different. That something was the degree or breadth of many outsourcing decisions and the amount of risk that the vendor was willing to accept.

- INPUT recorded these shifts with the definition of two new delivery modes: systems integration and systems operations.

- The changes offer major opportunities to the aggressive and larger vendors and signal a need for major changes in the strategies of information services vendors of all sizes.

Systems complexity has been growing since the first computer was built. However, the late 1980s saw complexity reach new levels at the same time that the number of alternatives offered by information technology exploded to new levels. The capabilities of information technology today exceed the abilities of most internal information systems organizations.

- These functions simply cannot keep up with the ever-expanding capabilities while also maintaining and operating the existing information network.

- At the same time, these new information technologies permit much more complex systems to be created and used by organizations. The result is newer and larger challenges and opportunities for information services vendors.

Within all of this new information technology there are three technologies that will have major fundamental impacts over the next five years; each offers great opportunities for vendors. The three technologies are networking, downsizing and imaging.

- *Networking* - The need to integrate existing and new systems of mixed technologies has become critical. The typical information network is too well established and too large to be replaced with the latest easy-to-integrate technology. They only solution is to use network management products to tie together multiplatform, multivendor systems ever more tightly.

- *Downsizing* - All of the advances in hardware technology add up to downsizing—getting more power from less costly and easier-to-install equipment. Over the next five years this will lead to new families of application software products, new tools and the replacement of many existing systems. Today's software products and professional services vendors must participate in the downsizing arena.

- *Imaging* - Image processing brings the true integration of data, text and graphics. We are still early in the imaging phase of information systems. The evolution of the use of this technology will parallel that of data base management systems—there remains much to learn about deploying imaging technology.

Information Systems Technology

Research from late 1990 on the U.S. market provides further insight relative to information systems technology and its impact on the information services industry.

From research to determine the primary factors that "inhibit" the deployment of information technology, INPUT found that over half of the issues mentioned (58%) were business management issues while only 42% were directly tied to the information systems function and technology.

- Exhibit 7 ranks the business management issues—verification of true business need and minimizing of business interruption top the list. Information systems departments and vendors still struggle to convince general management that there is a need for specific information technology.

Exhibit 7

Technology Implementation
Business Management Issues

Rank	Percentage of Respondents	Issues
1	40	Business need
2	19	Business interruption
3	15	Budget
4	10	Cost/benefit
5	9	Start-up cost
6	4	Red tape
7	3	Management reluctance

- Exhibit 8 ranks the information systems management Issues—staff availability and the burden of the existing information systems network top the list. After three or four years of continued pressure on internal information systems budgets, the flexibility of many, if not most, information systems organizations to leverage new technology has declined; at the same time, the number of alternatives has increased.

Exhibit 8

Technology Implementation
IS Management Issues

Rank	Percentage of Respondents	Issues
1	22	Staff availability
2	21	Existing systems/ applications/backlog
3	19	Integration
4	14	Training
5	12	Resistance to change
6	5	Maintenance costs
7	3	Planning
8=	2	Support
8	2	Administrative productivity

Exhibits 9, 10, and 11 provide results of recent research into the use of newer technologies. The issue at hand is simply how fast information systems is using these new technologies and what the resulting impact is on the information services and technology markets.

- Each issue reinforces the explosion of technology and the magnitude of the challenge to leverage the best of the capabilities, much less all of the capabilities.
- Only LANs and voice/data integration technologies, of the sixteen technologies listed, are in common use in 1990.
- It will be 1992 before many of these technologies reach the 50% penetration level.

Exhibit 9

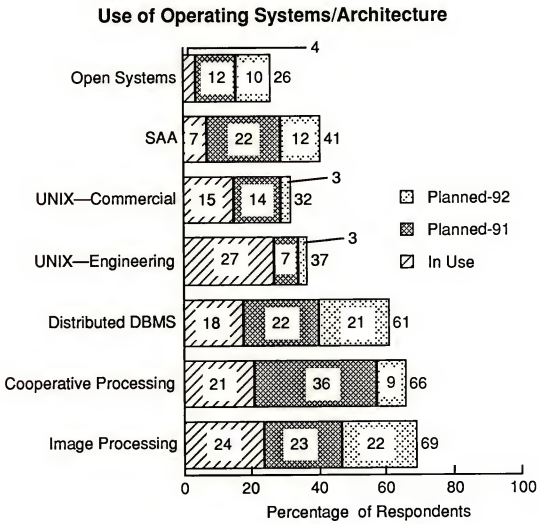


Exhibit 10

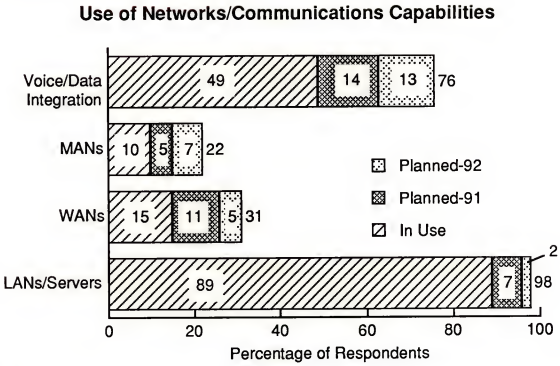
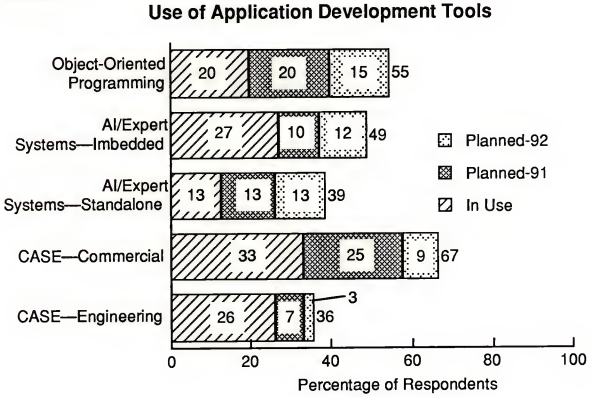


Exhibit 11



Two other observations in the area of applications development provide insight into the early 1990s.

Exhibit 12 ranks the issues facing applications development. They are numerous and for the most part are constraints on progress.

- It is interesting that vendor capabilities ranks as the least important. It is unclear whether information systems now views vendor capabilities as being much stronger, but they do not view them as a serious deterrent to progress.

- Two of the issues of greatest importance are re-engineering and workstation-based solutions. These reflect the growing desire to move (leap) forward to escape the burdens of the historically less-flexible applications that exist in all information systems environments.

The second observation has to do with the changes in applications (development and the resulting application itself) that are typified by executive information systems (EIS). This still-young effort to place the workstation—with a flexible, easy-to-use query interface—in the hands of management is defining the application of the future in a number of ways.

- Firstly, the tools used emphasize the user, his or her lack of computing skills and the uncertainty of the question(s) to be asked of the data base. All is designed to turn data into information in response to an unplanned question.

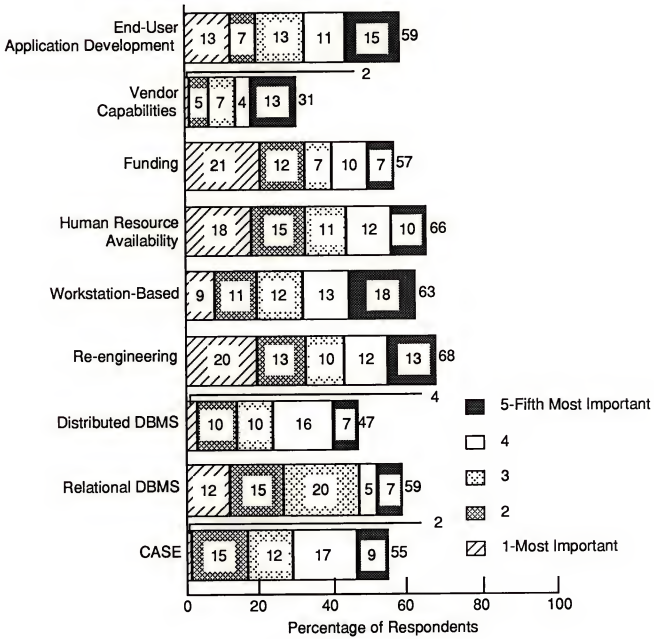
- Secondly, what started out as an application product that could be acquired from a vendor has become a powerful application development tool kit used by information systems and professional services firms, to build modern 1990s applications.

- Thirdly, executive information systems are not just for executives. To be successful they need the support of user management, which means they are used by middle management. The successful EIS quickly becomes everyone's information system.

- The characteristics of today's EIS indicate a great deal about what most applications of the 1990s will look like: the user interface, the structure of the data base and the orientation of flexible, changing requirements.

Exhibit 12

Relative Importance of Application Development Issues



Information Services Market Modes and Submodes

In this section of the briefing the data from the market sector analysis is summarized in chart form and the differences in the markets on a geographical basis noted. The term CAGR refers to compound annual growth rate.

Maintenance

The maintenance (hardware support) sector of the information services market is lagging behind the industry as a whole. Exhibit 13 indicates that the worldwide market is $38 billion, growing at only a 10% CAGR.

- In the U.S. and Western Europe the growth rates, in real growth terms, are near or below zero, after removal of inflation. What improvements there are in these territories are the developing use of maintenance personnel for professional services.

- In other parts of the world, demand remains reasonably strong. These markets (except Canada) remain dependent on the original hardware vendors for support.

This analysis broke out a sector of maintenance labeled Maintenance - Support Services. This includes a variety of professional services such as cabling, network planning, software evaluation, configuration planning and installation.

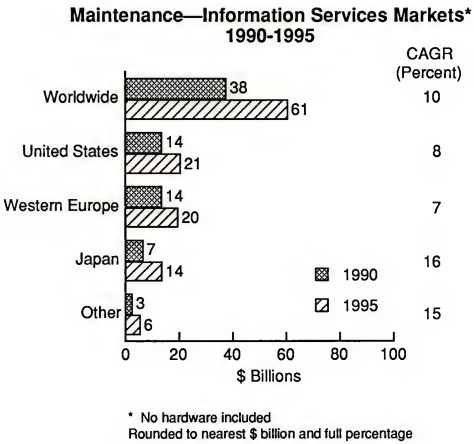
- In 1990 these support services represented $4 billion in revenue and will grow at over 20% to $11.4 billion in 1995. By 1995, support services will represent over 20% of the maintenance market.

- This makes the use of the traditional "field engineer" for other types of services one of the strongest growing sectors of the information services industry. It will almost triple in the next five years.

- The growth rates for maintenance support services are projected to be strongest in Japan and Western Europe.

- As the information technology network becomes more complex, and as the internal information systems function reduces its internal set of hardware skills, there has developed a solid opportunity to offer these types of services. These services should prove to be profitable and permit the maintenance vendor to maintain a broader set of skills.

Exhibit 13



Software Products

Software products (applications and systems) represents just over 30% of the total market, or $70 billion in 1990 (see Exhibit 14).

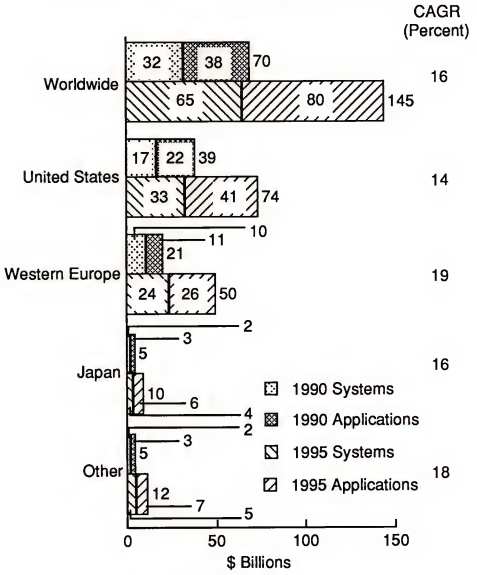
- It is split relatively evenly between applications and systems software products, with the applications segment growing slightly faster.
- By 1995, applications software products will represent 55% of the total market.

The software market is expected to be much stronger in Western Europe than in the U.S.

- Western Europe will have an overall growth rate of 19%, versus 14% for the U.S.
- Applications software products are expected to grow at over 20% in Western Europe through 1995. In 1990 this market, at $10 billion, is about 45% of the U.S. market; by 1995 it will be over 60% of the U.S. market at about $26 billion.
- The movement towards a Europe-wide market and a strong movement to use UNIX are two factors in the strong applications software market in Europe.

Exhibit 14

Software Products—Information Services Markets*
1990-1995



* No hardware included
Rounded to nearest $ billion and full percentage

Services

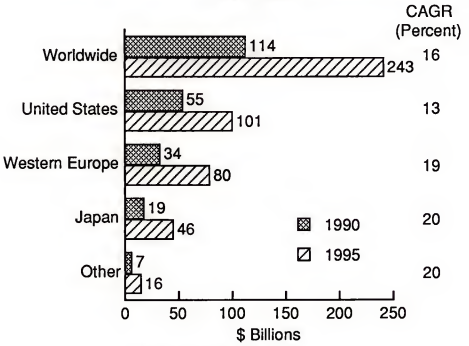
Exhibit 15 provides a summary of the submodes defined as services on a geographical basis and Exhibit 16 summarizes the submodes on a worldwide basis. A number of the services submodes are reviewed in the comments that follow.

- On a geographic basis, the U.S. market is expected to have the lowest growth rate (13%) over the next five years. All other services markets are projected to grow at or near a 20% CAGR. The size of the U.S. market is certainly a factor; however, based on INPUT's forecasts, the European services market will grow from just over 60% of the U.S. market to about 80% by 1995.

- The growth rates by submode vary from a low of 9% (processing services) to a high of 24% (network applications). On a worldwide basis, all of the services that contain a professional services character are projected to experience a greater than 15% CAGR through 1995.

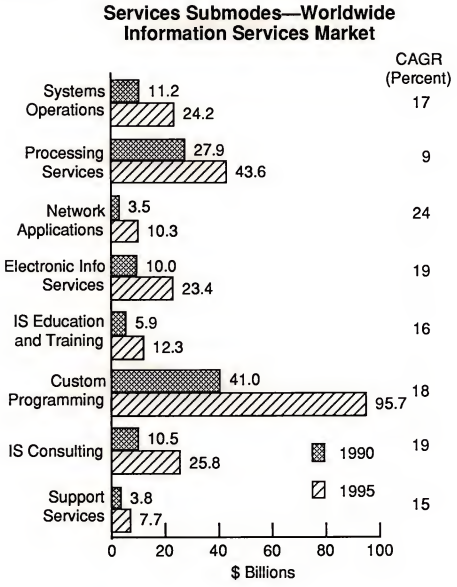
Exhibit 15

Total Services—Information Services Markets*
1990-1995



* No hardware included
Rounded to nearest $ billion and full percentage

Exhibit 16



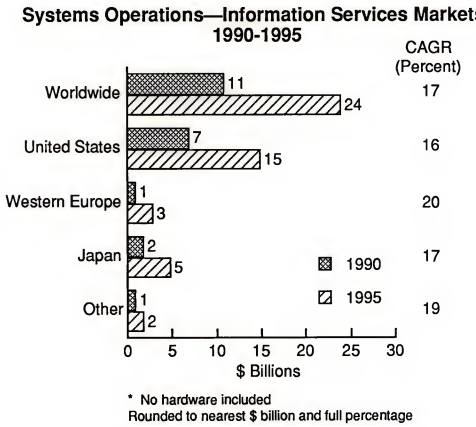
Systems Operations

Systems operations can be characterized as a long existing delivery mode (facilities management) that is experiencing renewed and very significant importance in the information services market. Medium to large organizations, at a slow but growing pace, are realizing that running the data center and the network is not essential to the operation of the organization—and more importantly, there is an alternative means that may provide more skills and capabilities at a lower cost.

This sector will enjoy increasing customer acceptance over the next five years. It may prove to be the fastest way to leverage newer information technology (client/server and downsizing) and escape the burden of older technology.

The market is reasonably well established in the U.S. but is just gaining favor in Europe and the rest of the world, as shown in Exhibit 17.

Exhibit 17

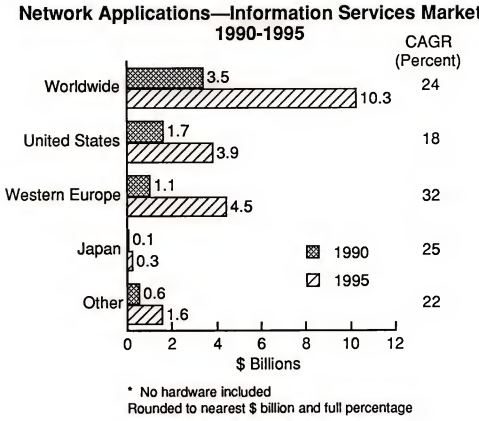


Network Applications

Network services is one of the smaller services segmented by INPUT and one of the fastest growing. Worldwide, it is estimated to grow at a 24% CAGR through 1995.

The markets in the U.S. and Western Europe are of similar size, but in Europe, network applications is growing at a much faster rate (32% versus 18% in the U.S.). The rate of growth reflects the coming together of the Western European economy and the renewed freedom to freely transfer information between countries. Exhibit 18 shows the network applications market by territory.

Exhibit 18



Custom Programming

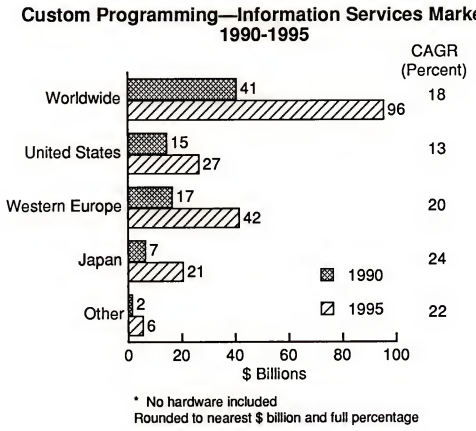
Custom programming makes up the largest services submode, representing 35% of the total. The market forecast is presented in Exhibit 19.

- It is a strong market throughout the world with the exception of the U.S. The U.S. market has experienced a slowdown tied to the current economic situation.
- The European market is slightly larger than the U.S. market and is growing much faster. This growth is projected in spite of the current recessionary influences.
- The Japanese market is also experiencing strong growth and is about half the size of the U.S. and European markets. It is strongly influenced by the local culture's emphasis on language.

The underlying forces driving growth of this labor-intensive resource are generally the same in all parts of the world. They include:

- Efforts to leverage CASE technology
- Resource shortages caused by pressure on central IS budgets
- Desire to leverage new technologies not being understood by internal IS staff

Exhibit 19

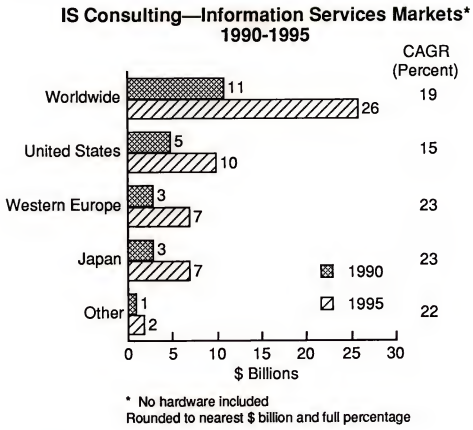


IS Consulting

The pattern in IS consulting is very similar to that in custom programming. The U.S. market is larger and growing more slowly than the other three sectors—15% in the U.S. versus over 20% elsewhere. International growth remains strong and is not being adversely impacted by the recessionary environment. Exhibit 20 provides the market projection.

A factor in favor of the growth of IS consulting services is the decentralization of the internal information systems function. With decentralization comes a more consultative organization that can be viewed as one of the alternatives (IS consulting vendors being the other) when management needs advice on new information systems requirements.

Exhibit 20



Conclusions

Exhibit 21 provides a comparison of the information services market in 1980 and 1990. There is evidence of major change over the last decade.

The following recapitulates the recommendations and conclusions for vendors in the information services market from INPUT's 1990 research.

- The economy and market maturity will combine to slow growth in the near term
- Outsourcing of systems management will growth in importance
- Large vendors will increase their influence on the direction of the information services market
- Vertical specialization will grow in importance
- Products vendors (software and hardware) will become services vendors or suppliers to services vendors
- Alliances will grow in importance—many will lead to permanent relationships
- Standards influence will grow—vendor strategies are being and will be impacted
- The information services market will have an increasingly international orientation
- The buyer of information systems and services will more often be the general manager

Exhibit 21

Information Services Industry, 1980 versus 1990

Difference	Implication
• Five times as big	• Slowing growth
• Many large vendors	• Consolidation and dominance
• Stronger vendors	• Greater reliance by user
• Willingness to outsource operations	• Processing services shifts to systems operations
• Greater variety of services	• Changing distribution channels
• Worldwide orientation	• Breadth and complexity of service offerings
• Many small vendors	• Alliances to succeed
• More technological alternatives	• More services required to integrate

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Area: Worldwide
by MODE AND SUB-MODE

Mode and Sub-Mode	$ Billions 1985	1990	1995
Maintenance			
Hardware	20.4	34.1	49.4
Support Services	0.9	4.1	11.4
Total Maintenance	**21.3**	**38.2**	**60.8**
Systems Software	10.8	32.1	64.4
Application Software	14.0	37.5	80.3
Services			
Systems Operations	4.6	11.2	24.2
Processing Services	17.6	27.9	43.6
Network Applications	0.6	3.5	10.3
Electronic Info Serv	3.5	10.0	23.4
IS Education & Training	2.4	5.9	12.3
Custom Programming	14.9	41.0	95.7
IS Consulting	3.7	10.5	25.8
Support Services	0.6	3.8	7.7
Total Services	**47.9**	**113.8**	**243.0**
Total (No Hardware)	**94.0**	**221.6**	**448.5**
Hardware**	7.3	16.3	29.7
Total Industry (INPUT)	**101.3**	**237.9**	**478.2**

** Equipment included in Systems Integration & Turnkey Systems

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Area: United States
by MODE AND SUB-MODE

Mode and Sub-Mode	$ Billions 1985	1990	1995
Maintenance			
Hardware	8.7	13.1	18.8
Support Services	-	1.0	2.0
Total Maintenance	**8.7**	**14.1**	**20.8**
Systems Software	6.5	17.1	32.6
Application Software	9.6	21.7	40.8
Services			
Systems Operations	3.2	7.3	15.2
Processing Services	10.8	15.0	22.4
Network Applications	0.3	1.7	3.9
Electronic Info Serv	2.6	6.4	14.1
IS Education & Training	1.1	2.5	4.1
Custom Programming	6.8	14.7	27.0
IS Consulting	1.9	4.7	9.6
Support Services	-	2.2	4.6
Total Services	**26.7**	**54.5**	**100.9**
Total (No Hardware)	**51.5**	**107.4**	**195.1**
Hardware**	3.9	7.2	12.1
Total Industry (INPUT)	**55.4**	**114.6**	**207.2**

** Equipment included in Systems Integration & Turnkey Systems

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Area: United States
by INDUSTRY SECTOR

		$ Billions	
Industry Sector	**1985**	**1990**	**1995**
Financial	7.3	14.7	27.8
Industrial	5.8	14.4	27.5
Services	7.2	17.9	302.8
Government	4.8	11.2	20.1
Total Industry Sector	**25.1**	**58.2**	**108.2**
Cross-Industry*	17.7	35.1	66.1
Maintenance*	8.7	14.1	20.8
Total (No Hardware)	**51.5**	**107.4**	**195.1**
Hardware**	3.9	7.2	12.1
Total Industry (INPUT)	**55.4**	**114.6**	**207.2**

* Not segmented by industry sector by INPUT

** Equipment included in Systems Integration & Turnkey Systems

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Area: Western Europe
by MODE AND SUB-MODE

Mode and Sub-Mode	$ Billions 1985	1990	1995
Maintenance			
Hardware	8.5	13.1	15.9
Support Services	0.4	1.3	4.0
Total Maintenance	**8.9**	**14.4**	**19.9**
Systems Software	2.9	11.4	23.8
Application Software	2.2	9.6	25.9
Services			
Systems Operations	0.3	1.1	2.7
Processing Services	4.2	7.3	10.9
Network Applications	0.1	1.1	4.5
Electronic Info Serv	0.6	2.6	6.5
IS Education & Training	0.6	2.0	5.4
Custom Programming	5.1	17.0	41.9
IS Consulting	0.5	2.5	7.0
Support Services	0.3	0.7	1.3
Total Services	**11.7**	**34.3**	**80.2**
Total (No Hardware)	**25.7**	**69.7**	**149.8**
Hardware**	1.9	6.1	12.6
Total Industry (INPUT)	**27.6**	**75.8**	**162.4**

** Equipment included in Systems Integration & Turnkey Systems

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Area: Western Europe
by INDUSTRY SECTOR

	$ Billions		
Industry Sector	**1985**	**1990**	**1995**
Financial	3.5	12.4	29.9
Industrial	3.6	10.5	24.7
Services	2.0	6.6	16.8
Government	2.3	7.9	19.2
Total Industry Sector	**11.4**	**37.4**	**90.6**
Cross-Industry*	5.5	17.7	39.4
Maintenance*	8.9	14.4	19.9
Total (No Hardware)	**25.7**	**69.7**	**149.8**
Hardware**	1.9	6.1	12.6
Total Industry (INPUT)	**27.6**	**75.8**	**162.4**

* Not segmented by industry sector by INPUT

** Equipment included in Systems Integration & Turnkey Systems

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Area: Japan
by MODE AND SUB-MODE

Mode and Sub-Mode	$ Billions 1985	1990	1995
Maintenance			
Hardware	2.0	5.1	9.3
Support Services	0.4	1.4	4.4
Total Maintenance	**2.4**	**6.5**	**13.7**
Systems Software	0.6	1.6	3.4
Application Software	0.9	3.0	6.3
Services			
Systems Operations	0.7	2.1	4.6
Processing Services	1.8	4.0	7.1
Network Applications	-	0.1	0.3
Electronic Info Serv	0.2	0.7	1.9
IS Education & Training	0.6	1.1	2.2
Custom Programming	2.2	7.2	21.1
IS Consulting	1.0	2.6	7.3
Support Services	0.3	0.7	1.4
Total Services	**6.8**	**18.5**	**45.9**
Total (No Hardware)	**10.7**	**29.6**	**69.3**
Hardware**	1.0	2.0	3.4
Total Industry (INPUT)	**11.7**	**31.6**	**72.7**

** Equipment included in Systems Integration & Turnkey Systems

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Area: Other*
by MODE AND SUB-MODE

Mode and Sub-Mode	$ Billions 1985	1990	1995
Maintenance			
Hardware	1.2	2.8	5.4
Support Services	0.1	0.4	1.0
Total Maintenance	**1.3**	**3.2**	**6.4**
Systems Software	0.8	2.0	4.6
Application Software	1.3	3.2	7.3
Services			
Systems Operations	0.4	0.7	1.7
Processing Services	0.8	1.6	3.2
Network Applications	0.2	0.6	1.6
Electronic Info Serv	0.1	0.3	0.9
IS Education & Training	0.1	0.3	0.6
Custom Programming	0.8	2.1	5.7
IS Consulting	0.3	0.7	1.9
Support Services	-	0.2	0.4
Total Services	**2.7**	**6.5**	**16.0**
Total (No Hardware)	**6.1**	**14.9**	**34.3**
Hardware**	0.5	1.0	1.6
Total Industry (INPUT)	**6.6**	**15.9**	**35.9**

* Includes Canada, Asia/Pacifc Rim (except Japan), Latin America, Mid East/Africa
** Equipment included in Systems Integration & Turnkey

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Competitive Profile
Andersen Consulting

Financial Performance

Fiscal Year - 8/90

	1990	1989	1988
Revenue ($ Millions)	1,900	1,443	1,112
• Percent Increase (%)	32	30	32
Net Income ($ Millions)	NA	NA	NA
• Percent Increase (%)			
Return on Equity (%)	NA		
Employees	19,000		

Markets

Delivery Modes

Systems Integration	63%
Professional Services	28%
Systems Operations	4%
Application Software Products	4%
Systems Software Products	1%

Geographic

Americas	61%
Europe, Mideast, Africa	32%
Pacific Rim	7%

Andersen Consulting

Strategic Direction

- Complete set of information technology based services designed to develop and retain client relationships.

- Leverage internal skills and methodology through development of marketable products (FOUNDATION)

- Expansion of services offerings through investment

  - Information technology demonstration centers
  - Acquisition of major systems operations contracts to establish systems operations and systems management business offering.

- Where required acquisitions are being used to broaden skill base.

  - During 1989 consulting firms were acquired in the United Kingdom, Norway, Canada and Spain. Included was Rossmore Warwick, a small British engineering firm that designs factories (September, 1989)

  - During 1989 software and support services capabilities were acquired including the PIOS MRP systems from McCormick and Dodge; and Courseware, Inc, a firm with 60 employees providing computer based training and related services in a number of vertical industries.

- Strengthen systems integration offerings through alliances with computer manufacturers (Hewlett-Packard and IBM) and software developers.

- Strengthen international resources to equal U.S. level of skills and capabilities in information technology.

- Use Advanced technology and Business Integration Centers to demonstrate solutions and capabilities.

Services/Product Offerings

- Services offerings include systems design and installation, systems integration, systems productivity consulting, information systems planning, strategic consulting, change management and systems and network management.

Andersen Consulting

- Software products include manufacturing resource planning (MAC_PAC), distribution and warehouse management (DCS/LOGISTICS) and the FOUNDATION™ family of CASE products.

- The Change Management practice works with organizations to position people, processes and technology for maximum continuous benefit - services focus on organizational structure, knowledge transfer and the integrated use of technology.

- Expanding relationships with software companies as source of systems implementation and systems integration capabilities.

- Offerings, and successes in almost all vertical industries - vertical practice leaders that oversee U.S. wide activities in each industry sector.

Strengths/Weaknesses

- Strengths

  - Worldwide business base - 157 offices in 45 countries
  - Flexibility/entrepreneurial style of a partnership
  - Access to existing and potential customers through multiple levels: executive, divisions management, information systems, corporate and divisional finance (through audit practice)
  - Year to year strong growth rate
  - Internal investment in staff development - beginning to counter reputation for junior consulting staff
  - Account management process

- Weaknesses

  - No real major weaknesses
  - Limited track record in systems operations (facilities management) area - buying into the business and gaining strength
  - Historic reliance on junior staff with limited experience resulting in on the job (at the customer) training
  - Systems integration business done too much "by the book" but beginning to be more flexibility as consulting staff matures
  - International capabilities lag U.S.

Note:
- Company Profile available from Vendor Analysis Program
- Systems Integrator Profile available from Systems Integration Program
- Systems Operations Profile available from Systems Operations Program

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Competitive Profile
Automatic Data Processing, Inc.

Financial Performance

Fiscal Year - 6/90

	1990	1989	1988
Revenue ($ Millions)	1,714	1,678	1,549
• Percent Increase (%)	2	8	12
Net Income ($ Millions)	212	188	170
• Percent Increase (%)	13	15	29
Return on Equity (%)	20	20	17
Employees	21,000	21,000	23,000

Markets

Delivery Modes

Processing Services	75%
Network Services	13%
Turnkey Systems	12%

Geographic

United States	95%
Canada	3%
Other	2%

ADP, Inc

Strategic Direction

- Sticking to what ADP does best - basic transaction processing in specific applications areas

- Recent (1989 and 1990) divestiture of non critical business lines (approximately 8% of 1989 revenues).

  - Automated Teller Business
  - Banking and thrift processing services business
  - Manufacturing turnkey systems business

- Possible expansion in international sectors

Services/Product Offerings

- Employer Services (53%) - payroll, payroll tax, job costing, labor accounting, personnel information and general accounting processing services

- Brokerage Services (28%) - back office processing services and on-line data bases for stock and commodity trading

- Dealer Services (12%) - processing and network services and turnkey systems for auto, truck, farm and heavy equipment dealers

- Automotive Claims Services (5%) - claims estimating processing services and on-line data bases for vehicle and parts valuation and location for insures, manufacturers and repairers

- Network Services (2%) - Packet switched value added public data network services and remote computing access

Strengths/Weaknesses

- Strengths

  - Financial Strength - tradition of double digit earnings growth
  - Outstanding client service - highest corporate priority
  - Focused on what they do well

ADP, Inc

- Weaknesses

  - Limited Emphasis on technology
  - Narrowness of services offerings may limit growth
  - Limited international business base

Note:
- Company Profile available from Vendor Analysis Program

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Competitive Profile
Cap Gemini Sogeti

Financial Performance

Fiscal Year - 12/90

	*1990	1989	1988
Revenue ($ Millions)	1,487	1,143	943
• Percent Increase (%)	30	21	39
Net Income ($ Millions)	100	85	66
• Percent Increase (%)	18	29	46
* Preliminary 1990 results			
Return on Equity (%)	NA	5	4
Employees	14,000		

Markets

Delivery Modes

Professional Services	79%
Systems Integration	21%

Geographic

Western Europe	80%
United States	20%

Cap Gemini Sogeti

Strategic Direction

- Professional services with increasing emphasis on full project responsibility through systems integration services

- Will enter continental market for systems operations using Hoskyns' expertise

- Continue acquisition policy

  - Hoskyns, United Research, MAC group and majority of Gamma SA
  - Basis for geographic expansion
  - Source of high quality personnel and target market expertise

- Remains averse to software products - only limited commitments in this area which are used to support professional services business.

Services/Product Offerings

- Primary areas of focus are systems integration and professional services - all facets

  - Consultancy
  - Software development
  - Computer operations
  - Applications maintenance
  - Conversions
  - IS staff recruitment
  - Training and education
  - Design and realization of custom hardware

- Specific systems areas of expertise include

  - Information systems security
  - Development tools
  - Development methodology
  - Application software products for securities management, videotex, major business applications

Cap Gemini Sogeti

Strengths/Weaknesses

- Strengths

  - Financial stability - consistent revenue and profit growth.
  - Successful acquisition strategy
  - Strong market position and image - leading independent European services firm
  - Branch structure has limited growth of bureaucracy and retained entrepreneurial style
  - Results driven management style
  - Building significant position in management consulting

- Weaknesses

  - No representation in Japan
  - Current branch structure is potentially an inhibitor in developing systems integration business
    - Weak middle management
    - Difficulty in aggregating resources for large projects
  - Focus on high employee utilization leads to lower margin assignments

Note:
- Company Profile available from Vendor Analysis Program - Europe

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Competitive Profile
Computer Science Corporation

Financial Performance

Fiscal Year - 3/90

	1990	1989	1988
Revenue ($ Millions)	1,500	1,304	1,152
• Percent Increase (%)	15	13	12
Net Income ($ Millions)	66	53	441
• Percent Increase (%)	25	21	35
Return on Equity (%)	14	14	13
Employees	21,000		

Markets

Delivery Modes

Systems Integration	29%
Professional Services	31%
Systems Operations	27%
Processing Services	9%
Turnkey Systems	3%

Geographic

United States	90%
Federal Government	61%
Commercial	29%
International	10%

Computer Science Corporations

Strategic Direction

- Maintain existing dominant position in the U.S federal government marketplace

- Position itself for a leading role in the commercial marketplace

  - Leverage Index Group's strategic planning skilld and reputation
  - Establishing a commercial branch office structure
  - Concentrating on technology transfer from federal to commercial assignments
  - Commercial sector to contribute 50% of profits by early 1990s
  - Primary focus enterprise solutions including re-engineering and systems integration services versus professional and processing services
  - Seeking systems operations acquisitions

- Expansion of skills and resources through acquisition program - acquired 6 companies in 1990 including

  - Logic, Inc, a provider of systems operations, processing services and applications software for insurance and financial institutions
  - Cleveland Consulting Associates providing logistics and operations management consulting
  - LPS, Inc a systems development company in commercial sector with 140 employees
  - Inforem Ltd, a British consulting firm serving financial services, retail and leisure industries
  - CIG-Intersys, the largest information services firm in Belgium (1,000 employees)

Services/Product Offerings

- Provided through three operating groups: Systems Group, CSC Consulting and Industry Services Group

- Systems Group

  - 61% of total revenues - Federal government business
  - Five divisions primarily serving the federal marketplace

    - Integrated Systems Division
    - Systems Science Division
    - Network Systems Division
    - Systems Engineering Division
    - Applied technology Division

Computer Science Corporations

- Slowing growth but continued high bid win rate (approaches 60%)

- CSC Consulting

  - 15-20% of total revenues - Commercial business
  - Serving the commercial marketplace
  - Growth through acquisition
    - Index Group, Inc.
    - Computer Partners
    - Cleveland Consulting
    - Communications Industry Services
    - CIG-Intersys
    - LPS, Inc
    - Logic, Inc.

- Industry Services Group

  - 5-20% of revenues - Commercial business
  - Provides specialized services for the healthcare, finance claims and income tax information processing

Strengths/Weaknesses

- Strengths

  - Size and depth of technical skills
  - Reputation of Index Group - ability to build relationships with senior levels of large corporations
  - Expertise in tax, credit and healthcare
  - Vertical sector expertise from:

    - CSC Partners in manufacturing, distribution, insurance and retail
    - Cleveland Consulting in logistics
    - CIG-Intersys in retail banking

- Weaknesses

  - Continued dependence on U.S. Federal Government market
  - Lack of international business and operational base
  - Slow development of commercial systems integration business strategy

Computer Science Corporations

Note:

- Company Profile available from Vendor Analysis Program
- Systems Integrator Profile available from Systems Integration Program

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Competitive Profile
CSK Corporation

Financial Performance

Fiscal Year - 9/90

	1990	1989	1988
Revenue ($ Millions)	594	520	433
• Percent Increase (%)	14	20	13
Net Income ($ Millions)	35	31	24
• Percent Increase (%)	13	27	3
Return on Equity (%)	4	5	7
Number of Employees	6,700	6,100	5,600

Markets

Delivery Modes

Professional Services & Systems Integration	63%
Systems Operations	15%
Hardware	22%

Geographic

Japan	100%

CSK Corporation

Strategic Direction

- Steady growth as part of CSK Group.
  - CSK Corporation currently one-third of parent
  - Tarket of $2.5 Billion by the year 2000
- Expand into international activities
  - Acquired Micrognosis in 1990
  - Using Micrognosis to focus on financial information services
  - Wanted to acquire Hoskins
  - Opening offices in 17 countries
- Strengthen Systems Operations services - new subsidiary established in 1990
- Strengthen R&D capabilities - artifical intelligence and mechanical translation technologies.

Services/Product Offerings

- Systems Integration services
- Software development
- Education and training
- Systems management services
- Computer systems sales
- VAN services (separate subsidiary)
- Hardware leasing

CSK Corporation

Strengths/Weaknesses

- Strengths
  - Largest independent IS vendor in Japan
  - Sales force
  - Systems operations capabilities
  - Access to consuler products technologies through CSK Group (SEGA Enterprises)
  - Leadership of President, Mr. Okawa
- Weaknesses
  - Poor product development capabilities
  - Body shop image
  - Low productivity - revenue depends heavily on number of employees

Competitive Profile
Digital Equipment Corporation

Financial Performance

Fiscal Year - 9/90

	1990	1989	1988
Revenue ($ Millions)	12,943	12,742	11,475
• Percent Increase (%)	2	11	22
Net Income ($ Millions)	74	1,073	1,306
• Percent Increase (%)	(93)	(18)	15
Return on Equity (%)	1	14	19
Employees	124,000	126,000	122,000

Markets

Delivery Modes

Application Software Products	7%
Systems Software Products	64%
Systems Integration	22%
Professional Services	6%
Turnkey Systems	1%

Delivery mode information based on US Information Services Revenues which were 1,250 million in fiscal 1990 (INPUT estimate)

Geographic

United States	46%
Europe	38%
Asia	15%
Other	1%

Digital Equipment Corporation

Strategic Direction

- Shifting revenue base from hardware dominance to services and software products

  - Major push to expand systems integration and professional services business
  - Moving professional services offerings towards higher level consulting services
  - Seeking balance between systems integration and professional services revenues - currently much higher from systems integration

- Shifting field focus from revenue to relationship and profit

  - Entire company organized into business units
  - Pushing decisions to the field
  - Developing worldwide account responsibility for top customers

- Changing the culture of the company

  - From engineering and product to marketing and service
  - From highly matrix, decentralized administrative processes to modest level of centralized processes

- Balanced technical strategy between VMS and Unix

- Heavy reliance on alliances in systems integration and consulting areas

Services/Product Offerings

- Ever broadening set of consultant based services

  - They often appear highly structured within the Digital terminology, but are quite flexible in practice and use

- Regional consultant resource centers operated as business units with profit and loss measurement

Digital Equipment Corporation

- Corporate strategy group now small, focusing on infrastructure, business development processes, and skills development
  - Have trained over 400 program manager
  - Developing mini services packages - e.g., short (few day information technology assessment processes
- Focus of new consulting services offerings seem to retain manufacturing, business unit (division) orientation versus corporate level orientation

Strengths/Weaknesses

- Strengths
  - Leadership in open/distributed technology
  - In house expertise in engineering, manufacturing, human systems, and information systems - transferring to customers
  - Learning to turn internal accomplishments into products and services offerings
  - Quality reputation
  - Growing flexibility in products and services offerings
  - Customer allegiance
  - Digital software products developers
- Weaknesses
  - Trapped between the PC and the IBM mainframe - has led to significant flexibility in services offerings
  - SI experience concentrated in smaller projects (under $10 million) but moving to larger projects
  - Lack of management and informations systems consulting market presence
  - Sales and customer often view Digital consulting as a free service

Note:
- Systems Integrator Profile available from Systems Integration Program

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Competitive Profile
Electronic Data Systems

Financial Performance

Fiscal Year - 12/90

	1990	1989	1988
Revenue ($ Millions)	6,109	5,467	4,844
• Percent Increase (%)	12	13	9
Net Income ($ Millions)	497	435	384
• Percent Increase (%)	14	13	19
Return on Equity (%)	23	25	27
Employees	60,000		

Markets

Delivery Modes

Systems Operations*	78%
Systems Integration	11%
Professional Services	11%

* Referred to by EDS as Systems Management - typically includes applications management support as will as data center and network operations

Geographic

North America	85%
International	15%

Electronic Data Systems

Strategic Direction

- Divisionalized corporation to increase entrepreneurial management style and to adopt vertical business focus

  - Have established over 40 strategic business units - split between GM and commercial
  - Commercial business units focuses on specific vertical industries

- Reduce share of revenue from General Motors to below 50%

  - GM represented 65% in 1987 but only 53% in 1990
  - Goal to be achieved by 1993 or earlier

- Invest in information technology firms that bring leveragable products and services

  - Ask Computer Systems for manufacturing industry
  - Thomas Group for manufacturing and distribution division
  - Infocel for local governments, education and public safety
  - BancSystems for credit card transaction processing services
  - Electronic funds transfer (EFT) business from ADP

- Expand services beyond information technology to business process operation (e.g., warehouse operation, administrative services, insurance claims processing)

- Concentrate on market represented by *Fortune* 500 size organizations

Services/Product Offerings

- Systems management

  - Facilities management and processing services
  - Full responsibility for applications support
  - Fiscal agent responsibility when EDS assumes responsibility for administrative duties such as paying claims for a health insurance company.
  - Preferred type of business - 10 year agreements, relationship based
  - Uses alliances to bring software solutions to systems management opportunities - Ask Computer Systems, Norwest, Banc One

Electronic Data Systems

- Systems integration

  - Large company large systems orientation
  - Complete systems integration services

- Professional Services - including IS consulting, software development and eduction and training

  - Prefer to customize package software or re-engineer existing application to developing total new custom systems
  - Striving to expand strategic level business and IS consulting

- Application Software Products - uses applications acquired as part of systems management agreements to broaden offerings - prefers to use off the shelf products to custom development

Strengths/Weaknesses

- Strengths

  - Systems and network operations base drawing on General Motors and external business - over 20 large and 120 other data centers worldwide
  - Proven worldwide network
  - Reputation for cost conscious management and on-time performance
  - Hitachi partnership for mainframe hardware
  - Breadth of vertical market penetration - for non GM business:

- Finance and Insurance	40%
- Commercial & Communications	36%
- Government Systems	24%

- Weaknesses

  - Few weaknesses
  - General Motors dominance of EDS business, however this is quickly declining
  - Limited reputation for strategic and general business consulting
  - Limited experience with or offerings of application software products
  - Lack of experience as a marketing company

Note:

- Company Profile available from Vendor Analysis Program
- Systems Integrator Profile available from Systems Integration Program
- Systems Operations Profile available from Systems Operations Program

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Competitive Profile
Logica

Financial Performance

Fiscal Year - 6/90

	1990	1989	1988
Revenue ($ Millions)	297	284	215
• Percent Increase (%)	5	32	26
Net Income ($ Millions)	9	19	15
• Percent Increase (%)	(53)	29	68
Return on Equity (%)	7	23	
Employees	3,600		

Markets

Delivery Modes

Professional Services	41%
Systems Integration	36%
Turnkey Systems	13%
Application Software Products	10%

Geographic

United Kingdom	48%
Europe (less UK)	21%
United States	20%
Other	11%

Logica

Strategic Direction

- Develop partnerships with clients and suppliers
- Maintain leading edge in applied information technology
- Provide full range of services from IT strategy through implementation

Services/Product Offerings

- Marketing, design production and maintenance of custom built software and associated hardware systems
- Consultancy and project management in information technology
- Design, development, implementation and marketing of software products and reusable components of applications software (systems kernels)
- Software product examples include
  - FASTRADE: trading information systems
  - CPLEX 400: communications software
  - GALLERY 2000: digital picture library
  - MASTERCONTROL 2000: data control and acquisition system

Strengths/Weaknesses

- Strengths
  - Knowledge and experience in communications sector
  - Strong market image and client base
  - Knowledge and experience of specific areas: security, EDI and open systems
- Weaknesses
  - Software development orientation - risk averse management attitude hampers fullest progress in systems integration sector
  - Recent problems with larger contracts (BART system in California)
  - Second class player in a world class league
  - New management with lower public profile

Note: Company Profile available from Vendor Analysis Program - Europe

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Competitive Profile
Finsiel

Financial Performance

Fiscal Year - 12/90

	1990	1989	1988
Revenue ($ Millions)	NA	675	523
• Percent Increase (%)		29	22
Net Income ($ Millions)	NA	13	16
• Percent Increase (%)		(20)	22
Return on Equity (%)	NA	NA	NA
Employees	5,400		

Markets

Delivery Modes

Professional Services	45%
Processing Services	20%
Systems Operations	7%
Application Software Products	3%
Equipment and Other	25%

Geographic

Italy	93%
Other (outside Europe)	7%

Finsiel

Strategic Direction

- Continue providing full range of IS services to the Italian central and local public administrations

- Form joint ventures with customers to develop product based solutions

  - Vertical industry orientation
  - Example - market communications software through TELESOFT (joint venture with SIP-STET)

- Develop opportunities outside Italy

  - Set up Softseil in California
  - Software development and education agreement in Soviet Union
  - Targeting the government of Spain

Services/Product Offerings

- Full range of professional services

- Systems operations including disaster recovery

- Internally developed and used software development methodology - DEFANE

Strengths/Weaknesses

- Strengths

  - Wide range of joint holdings giving access to specialist markets and technology knowledge
  - Professional services and systems operations for government sector
  - Large size and accompanying resources

- Weaknesses

  - Highly dependent on business with central Italian government
  - Very limited international presence

Note:
- Company Profile available from Vendor Analysis Program - Europe

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Competitive Profile
Logica

Financial Performance

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  - Second class player in a world class league
  - New management with lower public profile

Note: Company Profile available from Vendor Analysis Program - Europe

Competitive Profile
Reuters

Financial Performance

Fiscal Year - 12/90

	1990	1989	1988
Revenue ($ Millions)	2,170	1,881	1,590
• Percent Increase (%)	15	18	16
Net Income ($ Millions)	330	287	212
• Percent Increase (%)	15	35	22
Return on Equity (%)	NA	54	53
Employees	10,800		

Markets

Delivery Modes

Network Services	68%
Professional Services	4%
Application Software Products	1%
Non IS Services Industry	27%

Geographic

Europe/Mid-east/Africa	63%
Asia	20%
Americas	17%

REUTERS

Strategic Direction

- Electronic information industry publishing for the global banking and finance market

- Computer systems for securities trading - development of Dealing 2000/II

Services/Product Offerings

- Information products about the world's money, capital, commodity and energy markets - provided through electronic information services

- Transaction products that support traders, dealers and brokers active in foreign exchange, stocks, bonds, futures and options.

Strengths/Weaknesses

- Strengths

  - Global presence and market share in chosen information markets
  - Strong information technology resources

- Weaknesses

  - Difficulties in establishing and gaining acceptance of electronic securities trading systems
  - Not a broad based information services and software firm

Note:
- Company Profile available from Vendor Analysis Program - Europe

WORLDWIDE INFORMATION SERVICES INDUSTRY
FOR IBM CORPORATION

Competitive Profile
SD-Scicon

Financial Performance

Fiscal Year - 12/90

	*1990	1989	1988
Revenue ($ Millions)	320	449	351
• Percent Increase (%)	(29)	28	165
Net Income ($ Millions)	(35)	5	13
• Percent Increase (%)	-	(63)	69

* INPUT estimates after divestitures, loss expected for 1990

Return on Equity (%)	NA	NA
Employees	5,000	

Markets

Delivery Modes

Professional Services	33%
Systems Integration	30%
Processing Services	20%
Systems Operations	10%
Other	7%

Geographic

United Kingdom	55%
Europe (less U.K.)	40%
United States	5%

SD-Scicon

Strategic Direction

- Profitability problems have ended ambitions to be a world wide player
- Current strategy is to stabilize business on a reduced scale
  - Divested SCS and Warrington Associates)
- Seek relationships with other IS vendors
- Reduce dependency on defense business
- Resolve position of British Aerospace 26% ownership

Services/Product Offerings

- Wide range of information services and software products
  - All delivery modes except network services
  - Defense and commercial sectors
- Key product strengths include
  - ADA compilers
  - TEROMAN plant maintenance management system
  - SETCON process control system through joint venture with Setpoint, Inc.
  - PROMIX integrated process manufacturing system
- Specialization in support of Bull systems in France

Strengths/Weaknesses

- Strengths
  - Technical competence
  - Product based expertise in specialized areas - ADA language and compilers
  - Systems operations capability

SD-Scicon

- Weaknesses

  - Financial weakness and BAE ownership limit management flexibility
  - Very poor project management skills and infrastructure
  - Fragmented range of activities - insufficient focus

Note:
- Company Profile available from Vendor Analysis Program - Europe

INPUT to IBM Modes and Submode Classification

INPUT \ IBM	• Maintenance	- Hardware Service	- Support Service	• Systems Software	• Application Software	• Services	- Systems Operations	- Processing Services	- Network Applications	- Electronic Info. Systems	- IS Education and Training	- Custom Programming	- IS Consulting	- Support Services	• Hardware
• Customer Service															
- Hardware		x													
- Ancillary			x												
• Systems Software			x												
• Application Software					x										
• Processing Services															
- Transaction Processing								x							
- Utility Processing								x							
- Other														x	
• Systems Operations															
- Client Owned							x								
- Vendor Owned							x								
• Network Services															
- Network Applications									x						
- Electronic Info. Services										x					
• Systems Integration															
- Equipment															x
- Software			x		x										
- Professional Services												x	x		
- Other														x	
• Professional Services															
- Consulting													x		
- Software Development												x			
- Education and Training											x				
• Turnkey Systems															
- Equipment															x
- Systems Software			x												
- Application Software					x										
- Professional Services												x			

INPUT to IBM Industry Sector Classification

INPUT	IBM				
Industry Sector*	Financial	Industrial	Services	Gov't.	Cross-Industry
Discrete Manufacturing		X			
Process Manufacturing		X			
Transportation			X		
Utilities			X		
Telecommunications			X		
Retail Distribution			X		
Wholesale Distribution			X		
Banking/Finance	X				
Insurance	X				
Medical			X		
Education			X		
Business Services			X		
Consumer Services			X		
Miscellaneous Industries					
- Construction		X			
- Agriculture/Other			X		
Federal Government				X	
State & Local Government				X	
Cross-Industry					
- Accounting					X
- Education & Training					X
- Engineering & Scientific					X
- Human Resources					X
- Office Systems					X
- Planning & Analysis					X
- Other Cross Industry					X
- Utility Processing					X
- Other Processing					X
- Systems Software					X
- Electronic Info Services					X

*Equipment included in systems integration and turnkey systems to be deducted

About INPUT

INPUT provides planning information, analysis, and recommendations for the information technology industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Subscription services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services. INPUT specializes in the software and services industry which includes software products, systems operations, processing services, network services, systems integration, professional services, turnkey systems, and customer services. Particular areas of expertise include CASE analysis, information systems planning, and outsourcing.

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialization. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

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